

Tempe Aviation Commission

IGA Monitoring Report

Month:

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Prepared by:

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1. Introduction

This report is prepared by TAVCO to monitor the compliance of operations at Phoenix Sky Harbor Airport with certain noise mitigation flight procedures over the City of Tempe. The Tempe Aviation Commission (TAVCO) consists of Tempe residents selected by the Tempe Mayor and City Council to assist and advise on aviation issues. The City of Tempe is located directly east of the Phoenix Sky Harbor International Airport in Phoenix, which has 3 parallel runways, Runway 8/26, Runway 7L/25R and Runway 7R/25L.

In 1994 the City of Phoenix and the City of Tempe agreed to continue noise mitigation flight procedures already in use over Tempe and to introduce a new procedure for aircraft arriving over Tempe to the new third runway (7R/25L) at Phoenix Sky Harbor International Airport from the east. Tempe had prior to the agreement challenged the plans for the construction of a third runway because of inadequate assessment of the environmental impacts.

a) The 4-DME procedure

The 1993 Environmental Impact Statement (EIS)

According to the EIS, which among other planned improvements included the construction of a third runway, departures to the east from the new runway would follow the so-called "One-DME" Standard Instrument Departure procedure (SID) similar to the SID already in use by aircraft departing to the east from the airport¹.

The 1994 Record of Decision

The continued use of the "One-DME procedure" was also stated in the Record of Decision (ROD) where the FAA approved the plans for a third runway. When Phoenix and Tempe signed the Intergovernmental Agreement (IGA) on noise mitigation flight procedures over Tempe, the FAA reaffirmed its commitment to uphold these procedures. The "One-DME procedure" became the "4-DME procedure" when a navigational aid (VORTAC) was moved.

Standard Instrument Departure Procedure (SID)



North Runway 8L (Now 8): "Fly heading 085° to intercept PHX-075, across PXR R-350 at or below 3,000'. At 4 DME east of PHX VORTAC, turn right/left"
Center Runway 8R (Now 7L): " Fly direct PHX VORTAC, cross PHR at or below 3,000'. Proceed via PHX R-075 to 4 DME east, turn right/left" (FAA SW-1 of August 10, 2000)

Measure for Departure Procedure Compliance

Based on the 4-DME Standard Instrument Departure procedure (SID) TAVCO proposed a corridor along the Salt River to measure how commercial jet aircraft and large turboprop

¹ Source: Final Environmental Impact Statement Phoenix sky Harbor International Airport Master Plan Update Improvements, November 1993, Section 5.

aircraft² complied with the "4-DME procedure" using the Noise and Flight Track Monitoring System that the airport had agreed to install. This proposal was adopted by the Tempe City Council, but was rejected by the City of Phoenix. The airport use a vertical line to measure compliance of jet departures called the "4-DME Gate" or the "Exit Window Only Gate", which is a 5,500 feet long imaginary line running north south at 4-DME or approximately at Price Road. Turns by carrier jets north or south away from the Salt riverbed before reaching this line, or failures to stay inside the north or south end of this line are registered and in a compiled format submitted to the airlines in a "Notice of Deviation" letter by the airport. Deviations influenced by local weather conditions are excluded from the notification procedure.

This report compare departure compliance using the Tempe Corridor and the Phoenix "4-DME Gate" or "Exit Window Only Gate", and includes large turboprop aircraft because they are part of the 1994 agreement. Since the implementation of the "4-DME Gate" deviation standard for large carriers in 1997 the main issue of concern has been how well these aircraft on departure from Phoenix Sky Harbor International Airport to the east keep to the Salt riverbed and avoid flying over populated areas in Tempe.

b) The "Side Step" procedure

This is a noise mitigating procedure for jets and large turboprop aircraft that approach Phoenix Sky Harbor International Airport from the east to land on the new south runway, Runway 25L. Aircraft are directed to approach the center runway, Runway 25R, until they are 3 NM from the runway end or abeam Sun Devil Stadium at Mill Avenue in Tempe. At this point the pilot can be requested by Air Traffic

Side-step Procedure



Control to change the approach course to land on Runway 25L. When the pilot directs the aircraft from a stabilized approach to the Runway 25R towards the left and line up for landing on Runway 25L, the pilot performs a "side step procedure". This procedure is designed to keep large aircraft approaches over the river bed as long as possible before they close in towards neighborhoods in downtown Tempe south of the riverbed.

No measure has been set up in the airport Noise and Flight Track Monitoring System to monitor the use of this procedure, and in its present format this report does not include any data on the utilization of the "side step" procedure.

On March 27, 2002 the FAA suspended implementation of a charted "side step" procedure and the practice that had been in place since October 2000 to clear large aircraft to "side step" to Runway 25L because of flight safety concerns. Presently the FAA is clearing large commercial aircraft for straight-in approaches to the runway from the east.

² Aircraft certified and operated according to Title 14 FAR Part 121 or 135 with gross weight exceeding 12,500 pounds.

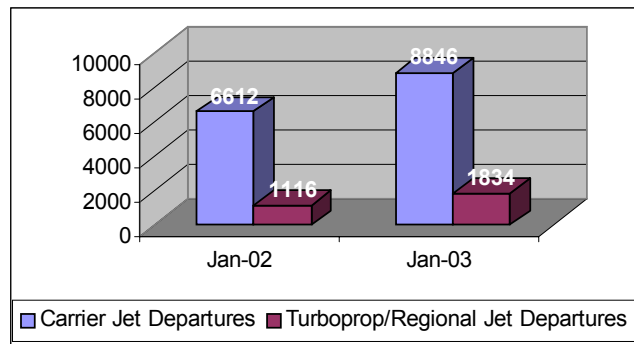
c) Departure Split (Equalization)

This procedure attempts to disperse evenly on an annual basis the noise impact of departing eastbound and westbound aircraft between Tempe and Phoenix during day and nighttime hours.

2. Aircraft Operations

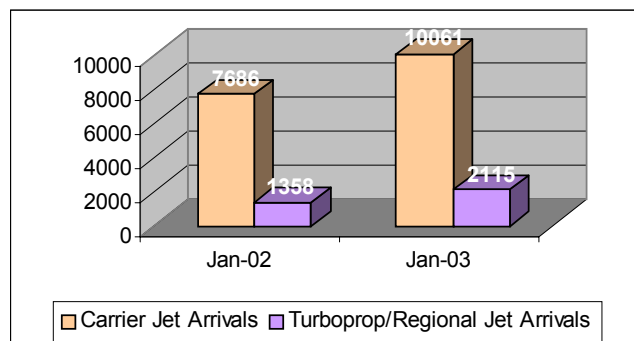
Carrier Aircraft

Compared to January of 2002 the total number of large carrier jets departing to the east during January 2003 increased 33.8% and arrivals to the west increased 30.9%.



Regional Jets & Large Turboprop Aircraft

The regional jets and turboprop departures increased by 64.3% and arrivals 55.4%



3. Departure Compliance

Weather

Departures excluded³:

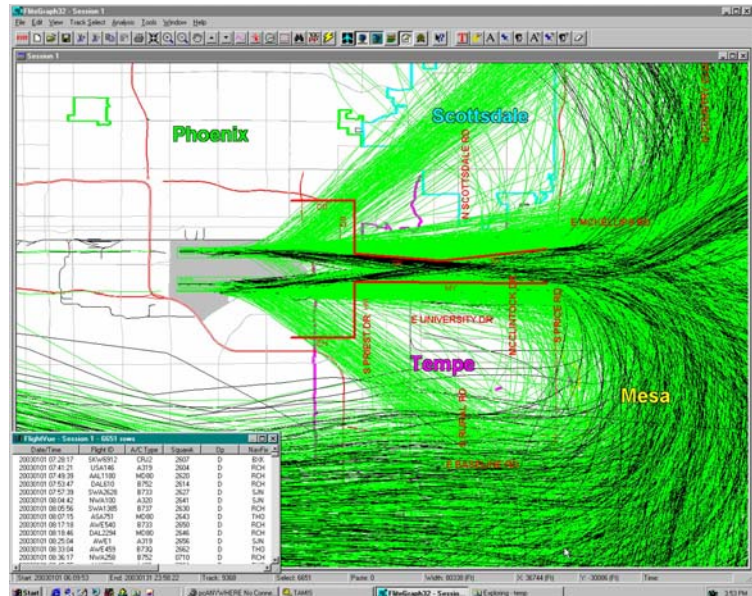
1/1 21:20-21:43
1/2 08:02-08:49
1/2 11:12-12:26
1/2 15:04-15:37
1/3 20:50-21:16
1/6 1028-1157
1/6 1312-1630

1/6 20:13-21:52
1/7 07:50-08:53
1/7 20:04-20:50
1/8 10:17-12:37
1/19 10:21-11:04
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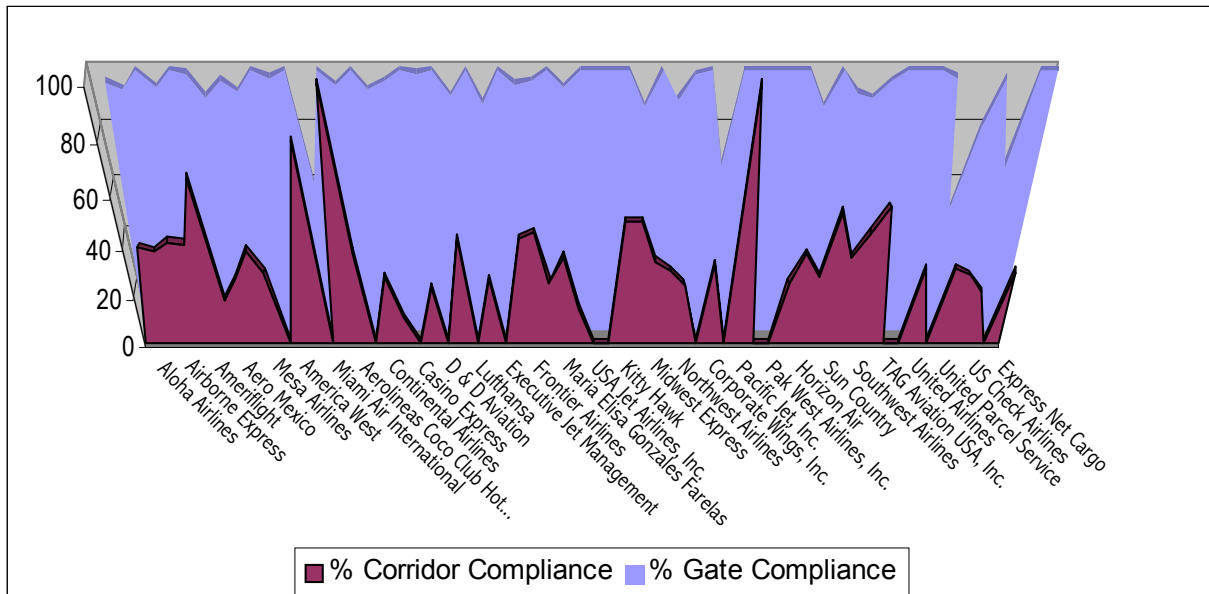
³ Based on Phoenix evaluations of weather influencing navigation east to 4DME

Compliance

The compliance rate for jets and larger turboprop aircraft was influenced by changes in runway operations in January 2003. Because of center runway reconstruction work all aircraft operations were directed to use the outboard runways after the center runway was closed January 6, 2003. The center runway is the runway that is normally used for large carrier jet departures. Both the airlines and the operators of corporate/private jets failed to accomplish their usual rate of compliance. Combined only **37.4%** of these aircraft departing to the east during the month of January 2003 complied with the Tempe corridor. 95.8% of the jets complied with the Phoenix 4 DME gate. Large turboprop aircraft are not included in the Phoenix gate compliance rate.

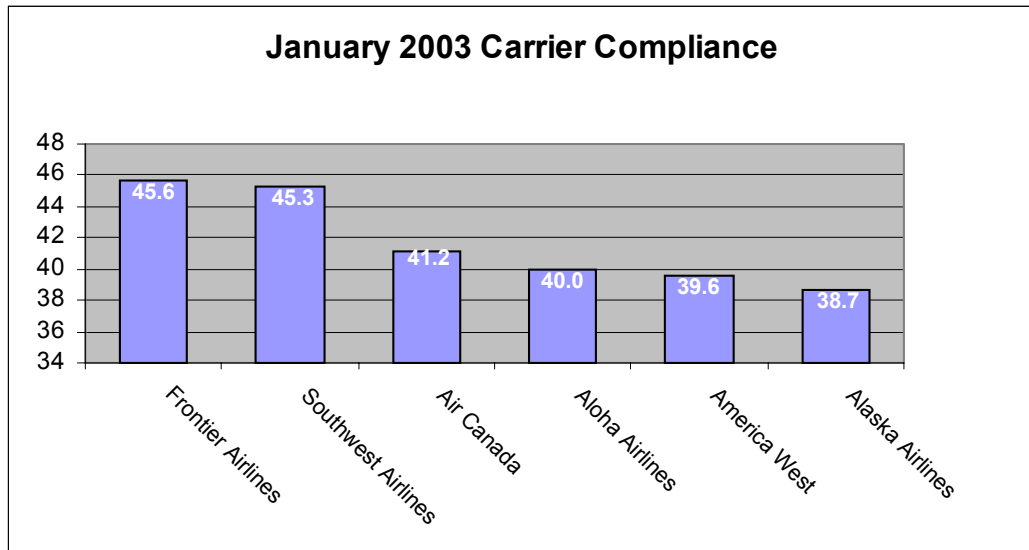


Flight tracks outside the Tempe Corridor are depicted in green.

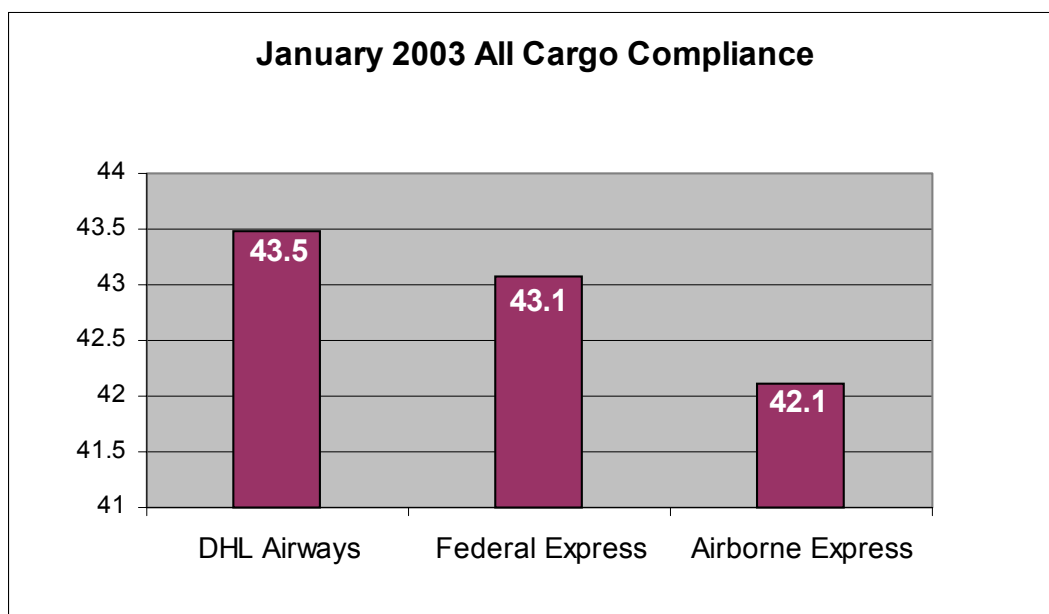


Top Airlines

The 4 best performing larger carriers had 40% - 45% of the aircraft in compliance during the month of January 2003. In January 2002 the top 6 larger carriers had 50% - 66% in compliance with the Tempe Corridor.

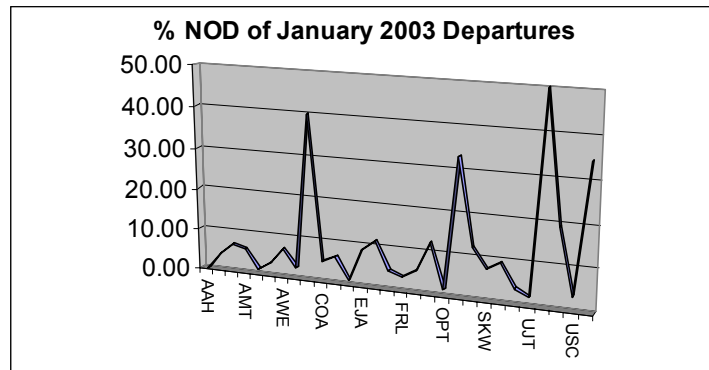


Compliance rates for all cargo carriers were also down but compared to passenger carriers to a lesser degree. In January 2002 DHL reached 57%, but Airborne Express reached only 38% and FedEx 35%.



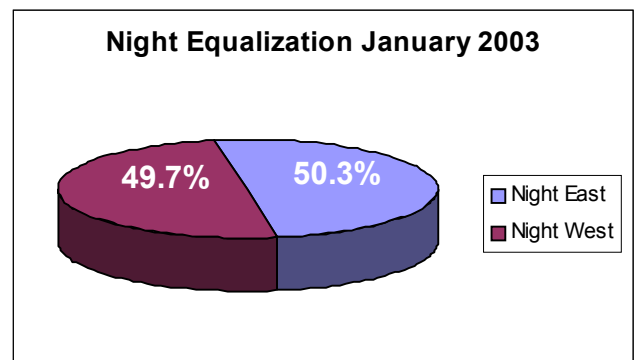
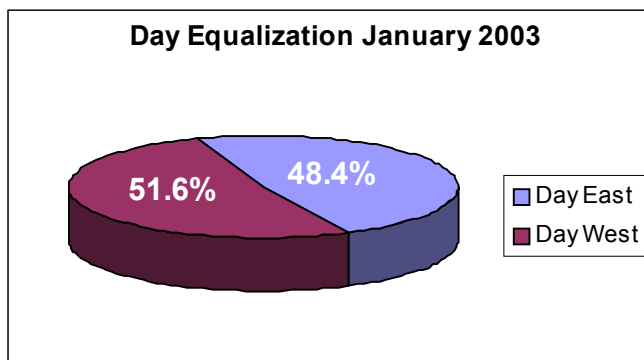
Notice of Deviation

The City of Phoenix issues Notice of Deviation (NOD) to airlines which aircraft have failed to comply with the 4DME Gate. Miami Air International, an all cargo carrier, with 5 departures to the east during the month and Corporate Wings, Inc. with 27 departures to the east during the month came out with a relative high number of notices. 40% of Miami Air's departures and 33% of Corporate Wings' departures were subject to a notice from Phoenix.



4. East/West Departure Split

The split in carrier jet and large commuter aircraft departures to the east and west of the Phoenix Sky Harbor International Airport is generally not as favorable for Tempe during the nighttime hours compared to daytime hours. In January 50% went east during nighttime compared to 53% during December 2002, and daytime 48% went east compared to 60% the previous month.



Day and nighttime departures are generated by a query covering day + evening hours and nighttime hours. Day = 7: 00 a.m. to 9:59:59 p.m. local time and Night = 9:59:59 p.m. to 7:00 a.m.

5. Complaints

The City of Tempe started registering aircraft noise complaints from Tempe residents in October 2000 after the opening of the third runway at Phoenix Sky Harbor International Airport.

Date	Complaints	Increase	Incursions	Increase	Residents
Jan-03	1165	27	3785	39	11

11 residents filed 27 aircraft noise complaints with the City of Tempe during January 2003. 39 flights were identified as disturbing by being off course or too low.